Figure 4 is a flowchart illustrating operations to calculate an estimate of quality level according to the present invention.

Figure 5 is a flowchart illustrating operations for calculating a KDR according to the present invention.

Figures 6A-6F graphically illustrate histograms of Monte Carlo replicates that indicate the shape of a probability distribution function for $\hat{p}$.

Figure 7 graphically illustrates bias as a function of sample size, when p=AQL.

Figures 8A and 8B illustrate bias curves across various sample sizes for an AQL of 0.01 and 0.10, respectively.

Figure 9A graphically illustrates bias correction regression for hypothesis testing, for n=5.

Figure 9B graphically illustrates bias correction regression for QL estimation, for n=5.

Figure 10A is the top half of a screen shot of an attributes work sheet according to the present invention.

Figure 10B is the bottom half of a screen shot of an attributes work sheet according to the present invention.

Figure 11A is the top half of a screen shot of the work sheet of Figures 10A and 10B, for Example 1.

Figure 11B is the bottom half of a screen shot of the work sheet of Figures 10A and 10B, for Example 1.

Figure 12A is the top half of a screen shot of an attributes data initial spreadsheet, for Example 2.

Figure 12B is the bottom half of a screen shot of an attributes data initial spreadsheet, for Example 2.

Figure 13A is the top half of a screen shot of an attributes data final spreadsheet, for Example 2.

Figure 13B is the bottom half of a screen shot of an attributes data final spreadsheet, for Example 2.

Figure 14A is the top half of a screen shot of a variables spreadsheet according to the present invention.

Figure 14B is the bottom half of a screen shot of a variables spreadsheet according to the present invention.

Figure 15A is the top half of a screen shot of a variables data spreadsheet, for Example 3.

Figure 15B is the bottom half of a screen shot of a variables data spreadsheet, for Example 3.

Figure 16A is the top half of a screen shot of a variables data spreadsheet 14, for Example 4.

Figure 16B is the bottom half of a screen shot of a variables data spreadsheet 14, for Example 4.

Figure 17A is the top half of a screen shot of a variables data analysis spreadsheet according to the present invention.

Figure 17B is the bottom half of a screen shot of a variables data analysis spreadsheet according to the present invention.

Figure 18A is the top half of a screen shot of a variables data analysis spreadsheet, for Example 5.

Figure 18B is the bottom half of a screen shot of a variables data analysis spreadsheet, for Example 5.--

On page 24, lines 18 to 29, please replace the text with the following:

--Figures 10A and 10B ~~shows~~ show the layout of the worksheet *Attributes_SP.xls*. The control panel is set up in columns B through F. Three (3) charts appear in columns G through P:

-*OC Curve*. (Upper Left) A plot of the probability of accepting a lot (vertical axis) against the process defect rate (horizontal axis).

-*AOQ Curve*. (Upper Right) A plot of the outgoing defect rate (vertical axis) against the process defect rate (horizontal axis).

-*Maintaining the Key Defect Rate*. (Bottom) A plot of the α error (vertical axis) against the critical value (horizontal axis). The data labels represent the sample size required to maintain fixed values for both the KDR and the power at KDR.

As seen in Figures 10A and 10B, only eight (8) cells can be changed. See Table 3:--

On page 26, lines 10 to 17, please replace the paragraph with the following:

--Entering the four given values into cells D4:D7 as outlined above, it is seen that the α error is 27.82%, with the KDR being 4.50%. A maximum defect rate of 6% (slightly above KDR) is entered in cell E29 in order to provide a decent horizontal axis scale. The

spreadsheet is recalculated using the F9 key. Figures 11A and 11B illustrates this spreadsheet, which now shows an AOQL of 0.73%. The Maintaining the KDR graph indicates a setup problem due to the empty D16, B31, and E31 cells. However, this scenario does not attempt to control the KDR, so this error message should be ignored.--

On page 27, lines 2 to 10, please replace the paragraph with the following:

--Ignore cell D4, the sample size entry. Arbitrarily set $c = 0$, thus entering "0" in cell D5. Then, enter "1" ($AQL = 1\%$) in cell D6, followed by entering "5" ($\beta = 5\%$) in cell D7. Next, enter "3" ($KDR = 3\%$) in cell D16. The targeted α error is entered as "10" in cell E31, with a maximum critical value of "15" in cell B31. Recalculate the spreadsheet using the F9 key. From this, it is seen in Figures 12A and 12B (viewing cell D17) that $n = 99$ is needed. However, under these conditions, the false alarm rate is highly unacceptable (see cell D23), as $\alpha = 63\%$. Lowering n would lower α but increase the KDR. Increasing n will increase α. Therefore, c should be increased.--

On page 27, lines 14 to 20, please replace the paragraph with the following:

--It will be understood that in Figures 12A and 12B, the OC curve and AOQ curve indicate setup problems, which are also signaled with warning lights for cells D4 and E29. Entering a "392" into cell D4 and a "6" into cell E29, along with a maximum defect rate (here use 6%, so enter a "6") in cell E29, finalizes the procedure. Lowering the maximum critical value to "7" in cell B31 would reduce the computation time needed for the recalculation (the F9 key), although this is not required. Figures 13A and 13B displays the final spreadsheet layout for this example. Here it is seen that the AOQL is 0.97%.--

On page 27, lines 28 to 30, please replace the text with the following:

--Figures 14A and 14B shows the layout of the variables data sampling plan worksheet *Variables_SP.xls*. The control panel is set up in columns B through J. Two (2) charts appear in columns L through Q:--

On page 28, lines 4, please replace the sentence with the following:

--As seen in Figures 14A and 14B, only seven (7) cells can be changed. See Table 4.--

On page 29, lines 8 to 13, please replace the paragraph with the following:

-- After entering a "0.65" in cell F4, a "5" in cell F5, a "90" in cell F6, and a "50" in cell G9, the resulting KDR of 4.025% is displayed in cell G11. Also, the critical value of 2.263% is displayed in cell G12. With the KDR being 4.025%, a maximum defect rate of 5% seems reasonable for the two plots. Thus, a "5" is entered in cell C18, with the case identifier "2" entered in cell C19. Figures 15A and 15B shows the final spreadsheet layout for example 3, where it is seen that the AOQL is 1.02%.--

On page 29, lines 28 to 33, please replace the paragraph with the following:

-- After entering a "1" in cell F4, a "5" in cell F5, a "95" in cell F6, and a "3" in cell E9, the resulting sample size of 174 is displayed in cell E11. Also, the critical value of 1.86% is displayed in cell E12. With the KDR being 3%, a maximum defect rate of 5% seems reasonable for the two plots. Thus, a "5" is entered in cell C18, with the case identifier "1" entered in cell C19. Figures 16A and 16B shows the final spreadsheet layout for example 4, where the AOQL is 1.05%.--

On page 30, lines 6 to 11, please replace the text with the following:

--The general spreadsheet layout of the variables data analysis workbook *Variables_DA.xls* is shown in Figures 17A and 17B. The data analysis summary is self-contained within one graph. Annotation is provided to report the particulars of the hypothesis test, the point estimate for the quality level, and an explicit conclusion.

As seen in Figures 17A and 17B, there are eight (8) editable cells devoted to the setup of the problem, and one long editable data field. See Table 5.--

On page 31, lines 1 to 7, please replace the paragraph with the following:

-- To begin the analysis, enter the response name "Separation Force" into cell C4, and the lower specification limit equaling "8" in cell C5. The upper specification limit cell C6 is left blank. Then, the hypothesis test information is entered: a "1" in cell G4, a "3" in cell G5, a "1.86" in cell G6, a "5" in cell G7, and a "95" in cell G8. Finally, the data is placed in cells C11:C184. It is seen in Figures 18A and 18B that the QL estimate is 0.84% and that the conclusion is to accept the null hypothesis that the process defect rate is at AQL.--